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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,565	02/23/2004	Cyrus Ashtiani	510.1057	9824
23280	7590	04/21/2006	EXAMINER	
DAVIDSON, DAVIDSON & KAPPEL, LLC 485 SEVENTH AVENUE, 14TH FLOOR NEW YORK, NY 10018			FANTU, YALKEW	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/785,565

Applicant(s)

ASHTIANI ET AL.

Examiner

Yalkew Fantu

Art Unit

2838

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02-23-2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant's claim states that a characteristic value is determined for each of the charge and discharge cycles ... further; applicant claims that individual characteristic values are summed. But there is no description for this. Applicant assigns a characteristic value A [sub (i)] for a number of cycles at a certain discharge depth, and then assigns another for another number of cycles at another discharge depth, and then sums those.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 3, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii (US 5,663, 628).

Art Unit: 2838

2. With respect to claim 1, a method of determining the deterioration of a battery (Fig. 1), charge and discharge cycles of the battery are measured by number and depth of the charge discharge; (Fig. 6; Col. 11, lines 54-58); a characteristic deterioration value is determined for each of the charge and discharge cycles on the basis of a deterioration curve (Fig. 4), and individual characteristic deterioration values are summed up to obtain the deterioration of the battery (Col. 10, lines 1-23).

3. Regarding claims 3 and 9, the dependency of the characteristic (Col. 11, line 54) deterioration values on the depth discharge (Col. 11, line 55) is defined for the respective battery type (Col. 10, lines 5-10) by the deterioration curve as a continuous function (Fig. 6 and 7).

4. Claims 1, 2, 5, 6, 11 and 12 are rejected under U.S.C. 102(b) as being anticipated by Yoshikawa et al. (US 6,317,697).

5. With respect to claim 1, a method of determining of the deterioration of a battery (Col. 8, lines 20-23; col. 11, 10-13), where the charge and discharge cycles of the battery are measured by number and depth of discharge (Col. 8, lines 20-25), and characteristic deterioration value is determined for each charge and discharge cycles (Col. 15, 35-37), and individual characteristic deterioration values are summed up to obtain the deterioration of the battery (Col. 9, lines 37-43).

6. With respect to claim 2, each partial cycle of charging and discharging measured separately, the characteristic deterioration value being determined for each of the partial cycles (Fig. 6), and values for all partial cycles being summed up (Col. 18, lines 56-64).

Art Unit: 2838

7. Regarding claims 5 and 11, the deterioration curve (Fig. 29A) is adapted to the conditions prevailing in the region of the battery using weighting factor (Fig. 15).

8. With respect to claims 6 and 12, the weighting factors are dependent on the temperature (Col. 15, lines 40-41).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (US 5,663,628) in view of Seri et al. (US 5,994,877).

10. With respect to claims 4 and 10, Fujii discloses a method of determining the deterioration of a battery, where a charge and discharge cycles of the battery are measured by number and depth of the discharge as set forth in the 35 USC 102 rejection above, however does not disclose the depth of discharge is defined for battery type by the deterioration curve of approximate intervals. Seri et al. reference, however,

Art Unit: 2838

teaches that the depth of discharge is defined for different battery type by the deterioration curve, which is adapted to the respective battery type. (Col 6, lines 46-52).

11. Fujii and Seri et al. are analogous art because they are from the same field of endeavor namely battery life determination methods.

12. At the time of invention, it would have been obvious to a person of ordinary skill in the art to have added weighting factor dependency to the discharge current of Fujii in view of the teaching of Seri et al.

13. The suggestion and motivation for doing so would have been obvious in view of the teachings of Seri et al. that by adding the dependency relationship of current to that of a weighting factor help to determine the deterioration of a battery.

14. Claims 7, 8 and 13-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (US 5,663,628) as applied to claims 1, 3, and 9 and Yoshikawa (US 6,317,697) as applied to claims 2, 5, 6, 11 and 12 above, in view of Kinoshita (US 5,703,469).

15. Regarding claims 7, 8 and 13 - 20 Fujii discloses a method of determining the deterioration of a battery, where a charge and discharge cycles of the battery are measured by number and depth of the discharge, and Yoshikawa discloses the deterioration curve is adapted to the conditions prevailing in the region of the battery using weighting factor as set forth in the 35 USC 102 rejection above, however, both Fujii and Yoshikawa do not teach:

Art Unit: 2838

Regarding claims 7, 8, 13 and 14, that the weighting factors are dependent on discharge current. Seri et al. reference, however, teaches dependency on the discharge current (Col. 6, lines 46-52).

With respect to claims 15 and 18, that the discharge cycles with a capacity efficiency are considered within a predetermined limit. Seri et al. reference teaches that the discharge capacity throughput considered with in a predetermined limit. (Col. 3, lines 11-15; col. 4, lines 15-20)

At the time of invention, it would have been obvious to a person of ordinary skill in the art to have added weighting factor dependency on the discharge current, and that the discharge cycles with capacity efficiency are considered within a predetermined limit so that the method would consider the characteristic factors that have impact in determining battery deterioration.

Claims 16, 17, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujii (US 5,663,628) as applied to claims 1, 3, and 9 and Yoshikawa (US 6,317,697) as applied to claims 1, 2, 5, 6, 11 and 12 above, in view of Kinoshita (US 5,703,469).

16. Regarding claims 16, 17, 19 and 20, Fujii discloses a method of determining the deterioration of a battery, where a charge and discharge cycles of the battery are measured by number and depth of the discharge, and Yoshikawa discloses the deterioration curve is adapted to the conditions prevailing in the region of the battery using weighting factor as set forth in the 35 USC 102 rejection above, however, both

Fujii and Yoshikawa do not teach a battery that is used in a motor vehicle for supplying electric power to electronic auxiliary components, and to propulsion components.

The Kinoshita reference, however, teaches a battery which is mounted as an energy source on an electrically propelled vehicle. (Col. 1, lines 10-12), and it is obvious for one skilled in the art to supply electric power, as described in this reference, to an electronic component of the above-mentioned vehicle.

Fujii, Yoshikawa, and Kinoshita are analogous art because they are from the same field of endeavor namely battery life determination methods.

It would have been obvious to a person of ordinary skill in the art, at the time of this invention, to add a battery used for supplying electric power to propulsion and electronic auxiliary components.

The suggestion and motivation for doing so would have been obvious in view of the teachings of Kinoshita that by adding a battery that is used in a motor vehicle for supplying electric power to electrically propelled vehicle components and electronic components, Fujii's method of determining battery deterioration could also be used for determining battery deterioration of a motor vehicle that supplies electric power to its propulsion and electronic components as specified in the above claims.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yalkew Fantu whose telephone number is 571-272-8928. The examiner can normally be reached on (M-F);(8AM-5PM).



Art Unit: 2838

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**Adolf Deneke Bernane**  
**Primary Examiner**